AUG 1 6 1994

Environmental Services of America, Inc.

Tri-S Division
205 Main Street
P.O. Box 1760
Brattleboro, VT 05302
Phone: (802) 254-3677
1-800-359-3677
Fax: (802) 254-7630

August 17, 1994

Chuck Schwer
Vermont DEC HMMD SMS
103 South Main St./West Building
Waterbury, VT 05671-0404

Re: "Environmental Investigation Summary Report"

Dear Mr. Schwer:

Enclosed please find the above referenced report for your appraisal.

If you have any questions, please call me at 800-359-3677.

Sincerely,
ENSA, TRI-S, Inc. Environmental Consulting

Susan C Chaffee SAW

Susan Chaffee
Senior Geologist/Project Manager

Enclosure

428\state.let

Environmental Investigation Summary Report
Stratton Mountain Inn
Middle Ridge Road
Stratton, Vermont
DEC Site #91-1154

for

Steven Logue
Stratton Mountain Inn
Middle Ridge Road
Stratton, Vermont 05155

prepared by

Environmental Services of America, Inc.
TRI-S, Inc. Environmental Consulting Division
205 Main Street
Brattleboro, VT 05301

August 3, 1994

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APPENDICES

I. Introduction

As requested by the Vermont Department of Environmental Conservation (VT DEC) Sites Management Section (SMS) in their letter of March 18, 1994 to Steven Logue of the Stratton Mountain Inn, Environmental Services of America - TRI-S, Inc. Environmental Consulting Division (ENSA/TRI-S) conducted subsurface investigations at the Stratton Mountain Inn ("the site") in Stratton, VT. Specifically, the investigations included installation and sampling of groundwater monitoring wells and sampling of a groundwater seep at the site, and analysis of the samples for Aromatic Volatile Organic Compounds and Total Petroleum Hydrocarbons. In addition, fuel oil-contaminated soils, which had been stored on the subject property since the removal of an underground storage tank (UST) from the site in 1991, were screened with an organic vapor meter (OVM).

This work was performed to determine: 1) whether groundwater at the site had been impacted by fuel oil from the leaking UST; 2) what course of action, if any, is appropriate to take regarding the oil-contaminated soils which are stored at the site; and 3) the potential for impact of the 1991 fuel oil release on downgradient sensitive receptors.

There is currently a fuel oil UST located alongside the site building, approximately 110 feet to the southeast of the former location of the tank which was removed in 1991. It is reportedly 2,000 gallons in size and still in use. According to personnel of the Stratton Mountain Inn, there is another fuel oil UST onsite, located near the swimming pool. The condition of the existing USTs at the site was not part of this investigation.

II. Discussion

A. Soil Boring and Monitoring Well Installation

On June 6, 1994, three soil borings were advanced at the Stratton Mountain Inn property. Groundwater monitoring wells were installed in two of the boreholes. Monitoring well SMI-1 is approximately 11 feet deep, and was installed to the immediate south of the Inn, in the former location of a 2,000 gallon #2 fuel oil UST which was removed from the site in 1991 after petroleum odors were detected in catch basins on the property. Monitoring well SMI-2 is approximately 5.5 feet deep, and was installed downgradient of the former UST location, north of the Inn, adjacent to one of the catch

basins. No monitoring well was installed in the third borehole, SMI-3, which was drilled to auger refusal at a depth of approximately 5 feet without encountering groundwater. Approximate well locations and other pertinent site features are indicated on the site sketch presented in Appendix A.

During drilling, split spoon soil samples were collected at five foot intervals and field screened for VOC concentrations with an Organic Vapor Meter (OVM) calibrated to 250 ppm of an Isobutylene span gas. OVM readings of soils from the boreholes ranged from 0.0 to 4.0 ppm in SMI-1, 0.0 ppm only in SMI-2, and 0.0 to 5.8 ppm in SMI-3.

B. Groundwater Sampling and Laboratory Results

On June 15, 1994, the monitoring wells at the site were gauged and sampled. Groundwater was observed to be seeping from an embankment located downgradient of SMI-3. Samples from the groundwater seep and SMI-1 and SMI-2 were collected and submitted to Alpha Analytical Laboratories in Westborough, MA for analysis via US EPA Methods 8020 (for Aromatic Volatile Organic Compounds) and 418.1 (for Total Petroleum Hydrocarbons).

Laboratory results revealed the absence of contaminants tested for in groundwater samples from monitoring wells SMI-1 and SMI-2. The sample from the groundwater seep was measured to contain 2.1 ppm of Total Petroleum Hydrocarbons. No Aromatic Volatile Organics were detected in the seep sample. Complete laboratory results are presented in Appendix B.

C. Screening of Stockpiled Soils for VOCs

According to the UST closure report prepared by EA2R of West Dover, Vermont, approximately 9 cubic yards of oil-contaminated soils were stockpiled onsite during the 1991 tank removal of a 2,000 gallon fuel oil UST from the south side of the Inn. The soils were placed in a plastic-lined pit near the west corner of the site. As part of the current investigations, ENSA/Tri-S, Inc. personnel collected soil samples from the pit for VOC screening with an OVM. Samples were obtained from three locations, and at depths of one foot and two to three feet below the surface. OVM readings at a one foot depth were 29.4 ppm, 30.2 ppm. and 27.0 ppm. Readings at two to three feet below the surface were 72.6 ppm, 66.8 ppm, and 83.0 ppm.

D. Sensitive Receptor Evaluation

The subject area is served by community drinking water and sewer systems. No drinking water wells exist in the immediate area and no human receptors are known to be located downgradient of the site.

A small stream, located downgradient of the site, exhibited no visual signs of impact as a result of the past release of fuel oil from the UST at the site. The stream is possibly intermittent; it carries runoff in a drainage ditch adjacent to Quarter Mile Road, from the east side of the site along the rear (northeast) side of the site. The concentration of TPH detected in the groundwater seep sample is not considered to represent a significant threat to the health of the stream or its inhabitants.

III. Conclusions and Recommendations

A. Conclusions

1. Laboratory results show the absence of Total Petroleum Hydrocarbons and Aromatic Volatile Organics in groundwater from the two monitoring wells which were installed on the property on June 6, 1994.

2. A sample from the groundwater seep which is downgradient of the monitoring wells contained no Aromatic Volatile Organics and 2.5 ppm of Total Petroleum Hydrocarbons.

3. Based on headspace screening of soil samples with an OVM, significant contaminant levels do not exist in soils at the monitoring well/soil boring locations. The highest reading, 5.8 ppm, was obtained from soils from SMI-3.

4. Based on the absence of significant levels of compounds tested for in the site's groundwater, the substantial time that has passed since the release incident was initially detected and the leaking tank removed (1991), and the fact that the subject area is served by community drinking water and sewer systems, an ongoing threat to sensitive receptors in the subject area from that incident does not exist at this time.

5. Based on headspace screening of soil samples with an OVM, the oil-contaminated soil stockpiled from the 1991 tank removal contains VOC concentrations that would require treatment per VT DEC approval. Readings obtained from these samples ranged from 27.0 ppm to 83.0 ppm.

B. Recommendations

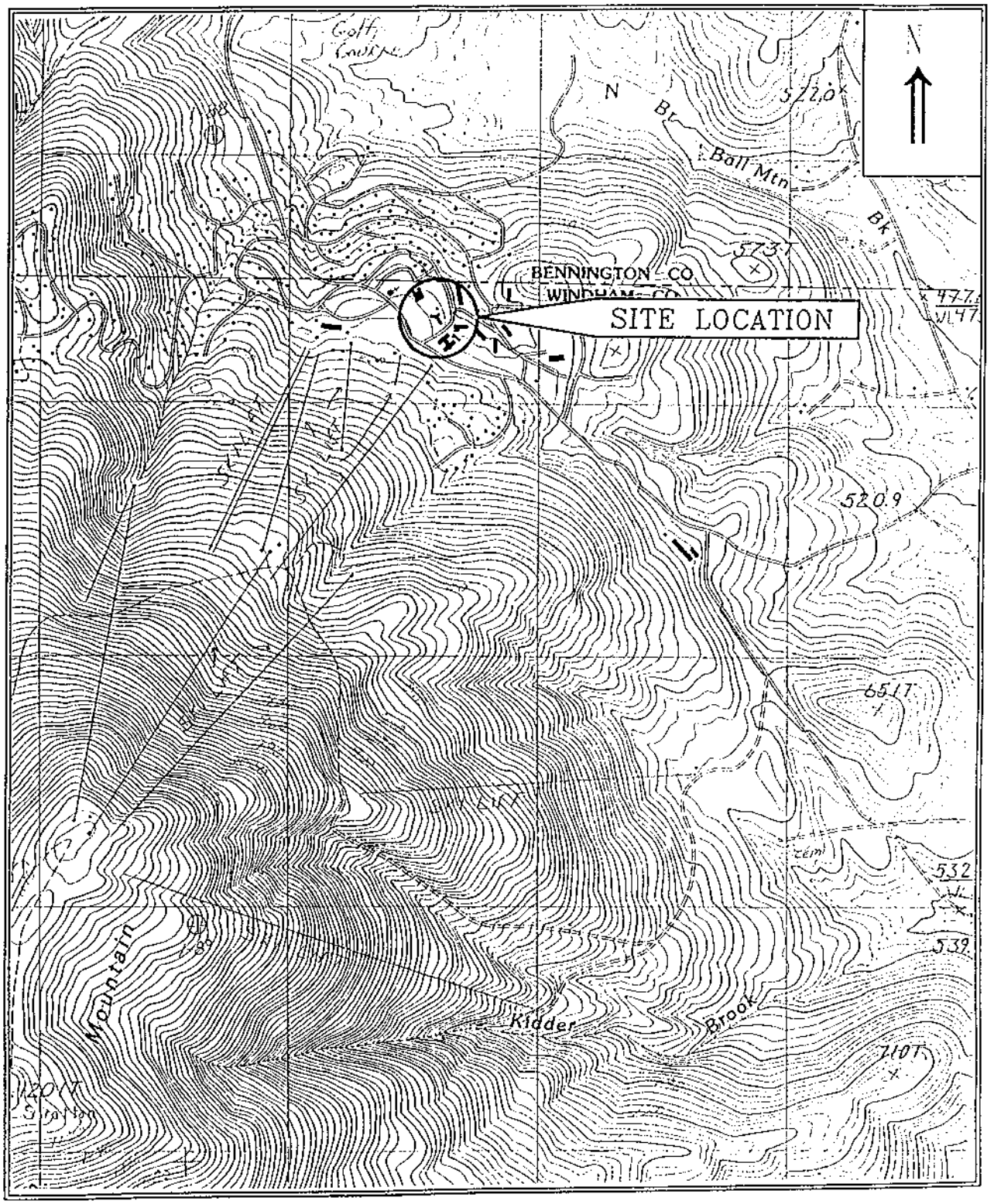
ENSA/TRI-S recommends that the stockpiled soils be excavated and disposed of at an out-of-state landfill. Prior to scheduling of excavation and disposal, these activities must be formally approved by both the VT DEC and the proposed disposal facility. Once the stockpiled soil has been properly disposed of, ENSA-TRI-S recommends that the VT DEC consider initiating procedures to achieve Site Management Activity Completed (SMAC) status for this site.

Appendix A

Site Locus, Site Sketch

TRI-S, INC. ENVIRONMENTAL CONSULTING
1-(800)-359-3677

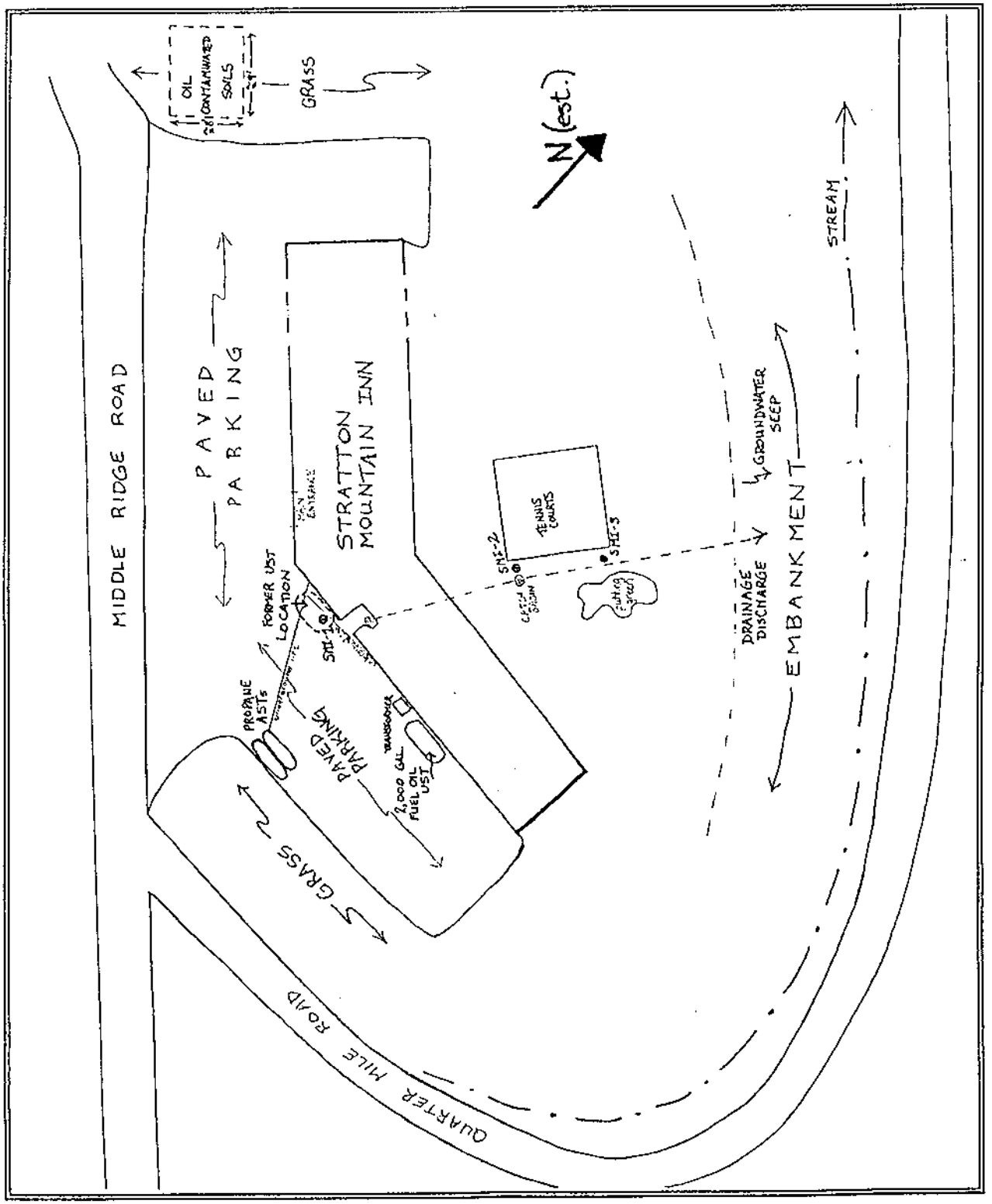
205 MAIN STREET
BRATTLEBORO, VT 05301



Site Locus	USGS Topographic Map Stratton Mountain Quadrangle - 1986 Scale 1:24,000 metric	Stratton Mountain Inn Stratton, Vermont

TRI-S, INC. ENVIRONMENTAL CONSULTING
1-(800)-359-3677

205 MAIN STREET
BRATTLEBORO, VT 05301



Site Sketch	Stratton Mountain Inn Stratton, Vermont	Not to scale. Building shape approximate.

Appendix B

Laboratory Reports

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

CERTIFICATE OF ANALYSIS

Client: Tri-S, Inc.
Address: 205 Main Street; 3rd Floor
Brattleboro, VT 05301
Attn: Susan Chaffee
Project Number: 428
Site: Stratton Mountain Inn

Laboratory Job Number: L9404740
Invoice Number: 64146
Date Received: 16-JUN-94
Date Reported: 30-JUN-94
Delivery Method: Alpha

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9404740-01	SMI-1-61594-428	Stratton, VT
L9404740-02	SMI-2-61594-428	Stratton, VT
L9404740-03	SMI-02-61594-428	Stratton, VT
L9404740-04	SMI-01-61594-428	Stratton, VT
L9404740-05	SMI-A-61594-428	Stratton, VT

Authorized by: James R. Roth

James R. Roth, PhD - Laboratory Manager

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9404740-01 Date Received: 16-JUN-94

[redacted]1594-428

Sample Matrix: WATER Date Reported: 30-JUN-94

Condition of Sample: Satisfactory Field Prep: None

Number & Type of Containers: 2 Vial,1 Amber Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS
Hydrocarbons, Total	ND	mg/l	0.50	1	418.1	24-Jun	24-Jun
Aromatic Volatile Organics				1	8020		27-JUN
Benzene	ND	ug/l	1.0				
Toluene	ND	ug/l	1.0				
Ethylbenzene	ND	ug/l	1.0				
Xylenes	ND	ug/l	1.0				
1,2-Dichlorobenzene	ND	ug/l	1.0				
1,3-Dichlorobenzene	ND	ug/l	1.0				
1,4-Dichlorobenzene	ND	ug/l	1.0				
Chlorobenzene	ND	ug/l	1.0				
Methyl tert butyl ether	ND	ug/l	1.0				

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9404740-02 **Date Received:** 16-JUN-94
[redacted]61594-428
Sample Matrix: WATER **Date Reported:** 30-JUN-94

Condition of Sample: Satisfactory **Field Prep:** None

Number & Type of Containers: 2 Vial,1 Amber Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS
Hydrocarbons, Total	ND	mg/l	0.50	1	418.1	24-Jun	24-Jun
Aromatic Volatile Organics				1	8020		22-JUN
Benzene	ND	ug/l	1.0				
Toluene	ND	ug/l	1.0				
Ethylbenzene	ND	ug/l	1.0				
Xylenes	ND	ug/l	1.0				
1,2-Dichlorobenzene	ND	ug/l	1.0				
1,3-Dichlorobenzene	ND	ug/l	1.0				
1,4-Dichlorobenzene	ND	ug/l	1.0				
Chlorobenzene	ND	ug/l	1.0				
Methyl tert butyl ether	ND	ug/l	1.0				

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9404740-03 **Date Received:** 16-JUN-94
[redacted]-02-61594-428
Sample Matrix: WATER **Date Reported:** 30-JUN-94

Condition of Sample: Satisfactory **Field Prep:** None

Number & Type of Containers: 2 Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATES PREP	DATES ANALYSIS
Aromatic Volatile Organics				1 8020		22-JUN
Benzene	ND	ug/l	1.0			
Toluene	ND	ug/l	1.0			
Ethylbenzene	ND	ug/l	1.0			
Xylenes	ND	ug/l	1.0			
1,2-Dichlorobenzene	ND	ug/l	1.0			
1,3-Dichlorobenzene	ND	ug/l	1.0			
1,4-Dichlorobenzene	ND	ug/l	1.0			
Chlorobenzene	ND	ug/l	1.0			
Methyl tert butyl ether	ND	ug/l	1.0			

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9404740-04
[redacted]-01-61594-428
Sample Matrix: WATER
Condition of Sample: Satisfactory
Number & Type of Containers: 1 Vial

Date Received: 16-JUN-94
Date Reported: 30-JUN-94
Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATES PREP	DATES ANALYSIS
Aromatic Volatile Organics				1 8020		23-JUN
Benzene	ND	ug/l	1.0			
Toluene	ND	ug/l	1.0			
Ethylbenzene	ND	ug/l	1.0			
Xylenes	ND	ug/l	1.0			
1,2-Dichlorobenzene	ND	ug/l	1.0			
1,3-Dichlorobenzene	ND	ug/l	1.0			
1,4-Dichlorobenzene	ND	ug/l	1.0			
Chlorobenzene	ND	ug/l	1.0			
Methyl tert butyl ether	ND	ug/l	1.0			

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574 NY 11148 NC 320 SC 88006 RI A65

Laboratory Sample Number: L9404740-05 **Date Received:** 16-JUN-94

[redacted]A-61594-428

Sample Matrix: WATER **Date Reported:** 30-JUN-94

Condition of Sample: Satisfactory **Field Prep:** None

Number & Type of Containers: 2 Vial,1 Amber Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS
Hydrocarbons, Total	2.1	mg/l	0.50	1	418.1	24-Jun	24-Jun
Aromatic Volatile Organics				1	8020		23-JUN
Benzene	ND	ug/l	1.0				
Toluene	ND	ug/l	1.0				
Ethylbenzene	ND	ug/l	1.0				
Xylenes	ND	ug/l	1.0				
1,2-Dichlorobenzene	ND	ug/l	1.0				
1,3-Dichlorobenzene	ND	ug/l	1.0				
1,4-Dichlorobenzene	ND	ug/l	1.0				
Chlorobenzene	ND	ug/l	1.0				
Methyl tert butyl ether	ND	ug/l	1.0				

Comments: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE DUPLICATE ANALYSIS

Laboratory Job Number: L9404740

Parameter	Value 1	Value 2	RPD	Units
Hydrocarbons, Total	DUPLICATE for sample(s) 01-02,05			
	ND	ND	NC	mg/l

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE SPIKE ANALYSES

Laboratory Job Number: L9404740

Parameter	% Recovery
	SPIKE for sample(s) 01-02,05
Hydrocarbons, Total	98

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE MS/MSD ANALYSIS

Laboratory Job Number: L9404740

Parameter	MS %	MSD %	RPD
Volatile Organics Spike Recovery by GC MS/MSD for sample(s) 02-05			
1,1-Dichloroethene	79	89	12
Trichloroethene	100	99	1
Chlorobenzene	90	102	13
Benzene	93	94	1
Toluene	96	96	0
Ethylbenzene	108	96	12
Volatile Organics Spike Recovery by GC MS/MSD for sample(s) 01			
1,1-Dichloroethene	79	89	12
Trichloroethene	100	99	1
Chlorobenzene	90	102	13
Benzene	93	94	1
Toluene	96	96	0
Ethylbenzene	108	96	12

ALPHA ANALYTICAL LABS
ADDENDUM I
REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.

ALPHA
Analytical Laboratories, Inc.

Eight Walkup Drive
Westborough, MA 01581-1019
508-898-9220 FAX 508-898-9193

RECEIVED JUL 05 1994

CHAIN OF CUSTODY RECORD
and ANALYSIS REQUEST RECORD

No. 64146

Sheet 1 of 1

Company Name: TRI-S, Inc. Environmental Consulting

Project Number: 428

P.O. Number: 2325

Project Name/Location: Stratton Mtn. Inn Stratton, VT

Date Received in Lab: 6/16

Date Due: 6/30

Company Address: 205 Main Street 3rd Floor Brattleboro, VT 05301

Phone Number: (802) 254-3677

FAX No.: 254-7630

Project Manager: Susan Chaffee

Alpha Job Number: (Lab use only) 9404740

Container Codes: P = Plastic V = Vial C = Cube G = Glass A = Amber Glass B = Bacteria Container O = Other

MATRIX / SOURCE CODES: MW = Monitoring Well; RO = Runoff; O = Outfall; W = Well; L = Lake/Pond/Ocean; I = Influent; E = Effluent; LF = Landfill; R = River Stream; S = Soil; SG = Sludge; DW = Drinking Water; B = Bottom Sediment; X1 = Other; X2 = Other

ALPHA Lab # (Lab Use Only)	Sample I.D.	Containers (number/type)	Matrix / Source	Method Preserve. (number of containers): Unpres.	Ice	Nitric	Sulfuric	HCl	Other	Solubles - F.F.	Sampling: Date	Sampling: Time	Analysis Requested
4740.1	SMI-1-61594-428	2/V 1/A	MW	1				2			6-15-94	12:00	~~8020~~ 8020's on vials / 418.1 TPH IR
.2	SMI-2-61594-428	2/V 1/A	MW	1				X				12:10	" "
.3	SMI-02-61594-428	2/V	MW					X				12:05	~~8020~~ 8020 N/C
.4	SMI-01-61594-428	1/V	MW					X				12:00	~ 8020 N/C
.5	SMI-A-61594-428	2/V 1/A	TR	1				X				12:20	8020; TPH-IR

Sampler's Signature: [signature] Affiliation: Tri-S Inc Date: 6-15-94 Time: 2:43

ADDITIONAL COMMENTS: Trip Blank and Duplicate included

NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	[signature]	[signature]	6/16/94	1:00 pm
2	[signature]	[signature]	6/16	545
3				
4				